

Complementary and alternative therapies (CATs) are becoming increasingly popular globally, especially in the West where conventional medicine may not be effective for chronic conditions. Olive tree leaves, traditionally used in Europe and the Mediterranean, are rich in potentially bioactive compounds with antioxidant, antihypertensive, and other beneficial properties. While research on CATs is increasing, there is limited evidence on the effectiveness of olive tree leaves specifically for metabolic disorders, despite their use as folk remedies for diabetes. Olive leaf extract, rich in oleuropein and other phenolic compounds, has shown promising results in animal studies. Oleuropein has been associated with improved glucose metabolism and antihyperglycemic effects in diabetic rodents. Studies have shown that olive leaf extract can reduce glucose, lipids, and other metabolic markers in diabetic rats, potentially making it a viable antidiabetic agent. Further research suggests that olive leaf extract may also positively impact cardiovascular and hepatic health in animals with a high-carbohydrate, high-fat diet. Despite promising results, the mechanism by which olive leaf extract improves glucose metabolism remains unclear. This study aims to investigate the effect of olive leaf extract on glucose metabolism in human subjects with diabetes and explore the underlying mechanism in animal models.